



**FILED**

11/06/19  
03:03 PM

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Implement  
Electric Utility Wildfire Mitigation Plans  
Pursuant to Senate Bill 901 (2018).

R.18-10-007  
(Issued October 25, 2018)

**PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)  
COMMENTS ON WORKSHOPS IN PHASE 2**

JESSICA BASILIO  
ALYSSA KOO

PACIFIC GAS AND ELECTRIC COMPANY  
77 Beale Street, B30A  
San Francisco, California 94105  
Telephone: (415) 973-5548  
Facsimile: (415) 973-5520  
E-mail: [Jessica.Basilio@pge.com](mailto:Jessica.Basilio@pge.com)

Dated: November 6, 2019

Attorneys for  
PACIFIC GAS AND ELECTRIC COMPANY

## TABLE OF CONTENTS

	<b>Page</b>
I. TOPICS FOR COMMENT.....	1
A. Utility Plans .....	1
B. Metrics .....	5
C. Outreach and Community Awareness .....	10
D. Independent Evaluator .....	17
E. Review Process/AB1054 .....	21
II. CONCLUSION.....	24

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Implement  
Electric Utility Wildfire Mitigation Plans  
Pursuant to Senate Bill 901 (2018).

R.18-10-007  
(Issued October 25, 2018)

**PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)  
COMMENTS ON WORKSHOPS IN PHASE 2**

Pursuant to Rule 14.3 of the Commission's Rules of Practice and Procedure, PG&E respectfully submits these comments to Administrative Law Judge's Ruling Requesting Comments on Workshops in Phase 2, issued October 10, 2019 (Ruling).

PG&E remains committed to the continued development and improvement of its Wildfire Mitigation Plan (Plan) and to working collaboratively with affected stakeholders to continue to enhance its Plan. In this filing, PG&E addresses the questions that PG&E was required to answer in the Ruling, as well as some that were optional.

**I. TOPICS FOR COMMENT**

**A. Utility Plans**

- 1. All utilities except SCE – Provide a color-coded chart showing Wildfire Mitigation Plan progress using the template included in slide 4 of SCE's workshop presentation. The utility workshop presentations are attached to this ruling and hereby incorporated in the record of this proceeding.*

Attached as Attachment A is a chart showing the status of PG&E's Wildfire Mitigation Plan (WMP) as of September 30, 2019.

2. *BVES' representative discussed a pilot program in which it wrapped existing overhead conductors with a synthetic material, and noted concerns with corrosion caused by moisture and other engineering concerns. If other utilities have wrapped lines rather than replacing them with covered conductor, give the mileage covered by such lines and describe any corrosion or other concerns with the wrapped lines.*

PG&E does not have experience with wrapping or covering existing conductor. PG&E's efforts related to covered conductor (sometimes referred to as "Tree Wire" in the past) have involved replacing the existing conductor with a new, covered conductor.

3. *All utilities – How do you measure the amount that wildfire risk is reduced by each Wildfire Mitigation Plan initiative? Which measure(s) (e.g., covered conductors versus undergrounding, right-of-way clearance versus hazard tree removal, etc.) reduce wildfire risk the most? How do you account for and measure the aggregate impact on wildfire risk reduction when multiple mitigation measures are implemented on or around the same assets (e.g., increased vegetation clearance in the same areas where covered conductors are installed)? What assumptions, data, and analytical models do you use to adjust this risk reduction by location-specific conditions (e.g., High Fire Threat District (HFTD), housing density, vegetation density, etc.)?*

PG&E's wildfire risk reduction measures are developed based on an assessment of how a specific WMP initiative, if deployed in the past could have impacted past performance metrics.

PG&E accomplishes this assessment by first determining the failure modes for its asset/equipment that could lead to an ignition. After identifying these failure modes that could lead to an ignition, PG&E determines mitigations that would mitigate those specific failure modes. With these mitigations identified, PG&E then determines the percentage of failure modes experienced in historical operation that would have been avoided if the WMP initiative had been deployed. This percentage of failure modes avoided serves as the measure of risk reduction for completed WMP initiative/work.

PG&E employs wildfire mitigations that either: manage vegetation, de-energize, remove wire assets, relocate wire assets (e.g. relocate outside HFTD areas or relocate facilities underground), or rebuild wire assets to fire hardened standards. For an individual line segment (conductor between two support structures), removal of wired assets or relocation of wire assets

underground have the potential to reduce wildfire risk the most. However, these options still have some levels of wildfire risk associated with them. For example, in the case of the removal of wire assets solution, a distribution energy generation source would be required to be available to support end users relying on the removed line, which could also pose some form of risk for starting a fire. Also, depending on location the measure that reduces the wildfire risk the most may vary subject to local conditions and attributes.

The measured wildfire risk reduction for multiple mitigations follows the same methodology as outlined above. Specifically, where multiple mitigations would address different threats to the same electric line, both mitigations are employed to reduce wildfire risk. The reduced risk from both mitigations is determined by assessing the estimated reduction in outages if both mitigations had been employed in the past.

Examples of this were provided in the response to TURN\_003-13, which is provided below:

*“In a simple analysis of historical drivers of fire ignitions in High Fire Threat Districts application of “System Hardening” (installation of covered conductor plus pole replacement) was identified to mitigate 56% of the historical ignitions by itself, when EVM was also applied to the analysis this number increased to 79% of historical ignitions mitigated.”*

Wildfire risk is measured as the combination of three factors: 1) Likelihood of equipment failure that could initiate a fire, 2) Consequence of wildfire spread in a given area, and 3) Consequence from the difficulty of egress from an area. All three of these factors have location specific components.

For equipment failure the likelihood of failure is dependent on locational factors that might heighten certain failure modes. The most influential example of this factor is the presence of vegetation. Other locational factors might include coastal regions where salt or humidity have an impact on corrosive failure modes. Alternatively, dry and dusty regions will heighten a different set of failure modes.

The two consequences associated with wildfire spread and Egress are also based on locational conditions such as available fuels, moisture content, along with proximity to customers, fire departments, and access roads.

In modeling wildfire risk, these locational factors are considered to both identify effective locations and types of mitigation as well as to correctly assess the reduction of wildfire risks when implemented.

4. *All utilities - How do you monitor ignition and near-miss incidents in your service territory before versus after the implementation of each Wildfire Mitigation Plan initiative? What differences do you observe in those incidents or their occurrence after implementation of mitigation measures in your plans? What near-miss incidents do you monitor?*

PG&E tracks ignitions and provides data on them as part of an annual report to the CPUC. PG&E also has systems to track and gather data on electric distribution system outages, which can be considered the population of ignition “near-miss” incidents. While very few outages ultimately result in ignitions, virtually all ignitions result from conditions that also drive a system outage. To date PG&E has not analyzed all outages to identify which truly represented an ignition risk against those that had low or no likelihood of ever resulting in an ignition. Note that from 2016-2018 PG&E averaged 145 CPUC-reportable ignitions over ~25,000 miles of overhead circuits in CPUC Tier 2 and Tier 3 HFTDs, such that the relative frequency of ignition incidents on any given mile of circuit is fairly low.

Given the relative short history of PG&E’s Wildfire Mitigation Plan implementation, PG&E has not completed an analysis of ignition or “ignition-potential” events in areas where wildfire mitigations occurred against those areas where no such mitigations have been completed.

5. *All utilities – How do you measure the effectiveness of both equipment and vegetation inspections? How do these measurements of effectiveness guide changes to inspection, maintenance and trimming guidelines, respectively?*

At this point in time, PG&E does not have a measure of the effectiveness of vegetation or equipment inspections on reducing ignitions. Since we have historically been performing these kinds of inspections, the benefits they provide in reducing incidents are generally considered to already be reflected in historical results. PG&E does leverage quality control and quality assurance programs with both vegetation and equipment inspections to measure the effectiveness of these programs in identifying the abnormal conditions being targeted. These sample-based quality programs assess if the inspection programs are catching the corrective actions they should be and provide information on any areas where program improvements may be needed.

## **B. Metrics**

7. *List of proposed metrics. Parties shall meet and confer to revise the list of metrics the Commission's Public Advocates Office (Cal Advocates) compiled, served and filed on September 6, 2019, based on the workshops. Cal Advocates shall make the revised submission as an attachment to its reply comments. The list may include metrics beyond those in the September 6, 2019 submission, as long as the metrics comply with the Phase I decisions. For example, the Phase I decisions discussed "metrics" that are really program targets, such as trees trimmed or miles of power lines hardened. If Cal Advocates is unwilling or unable to make this filing, a representative of PG&E, SCE or SDG&E shall do so.*

PG&E has met and conferred with the other parties on metrics and as ordered submits Attachment B, attached hereto, to Commission Public Advocates Office (Cal Advocates), as PG&E's proposed metrics for use in our WMP Phase 2.

8. *All utilities – Utilities should prepare a list of common definitions and measures for data and metrics (and, if any are irreconcilable, a list of those along with an explanation for that conclusion).*

Over the last several weeks, PG&E has joined and participated in multiple meetings with the other utilities to discuss definitions used and whether there are any that we may have in common. Attached here as Attachment C is a list of the utilities' respective definitions for a few key terms. The differences in these key definitions demonstrate and reflect differences in

processes, operations, systems and programs throughout our organizations. Movement to align definitions is not as easy as acquiescence by a utility of a preferred word or term's designation to another utility's favorite— it entails changing and overhauling foundations of processes, programs, and systems that may be culturally and operationally engrained. Therefore, to the extent there is a benefit to using common definitions amongst the utilities, PG&E suggests this is undertaken as a long-term iterative goal through a multi-year working group.

9. *How could lessons learned from the General Order 174 best practices working group experience mentioned during the workshop by PacifiCorp's representative inform the Wildfire Mitigation Plan process?*
14. *Would a working group process similar to that used in the Safety Model Assessment Process (SMAP) context and described at the workshop be useful in the Wildfire Mitigation Plan context? Give specific recommendations*

A working group process could be useful in the WMP context. However, with the various components involved in the WMP, as well as other related proceedings covering overlapping aspects of wildfire mitigation, the working group process would need to be coordinate with other parallel working groups that are on-going or proposed to be launched in the future. Similar to the Commission's DER Action Plan, which was developed to align the Commission's vision and actions in shaping California's distributed energy future over the next several years and serves as a roadmap in coordinating activities across multiple proceedings. A similar plan is needed for the WMP, which could serve as a guide for decision-makers, staff, and stakeholders as they facilitate proactive and forward-thinking wildfire mitigation policy.



10. *All utilities – If you have not already provided detail on where to find geospatial data about the location and size of all of your transmission and distribution assets, do so now. At the workshop, PG&E’s representative discussed filings made in the Distributed Energy Resources context providing such data. PG&E and all other utilities shall provide cites and links to this information, as well as any other data sources as to size and/or location of power lines.*

The Integration Capacity Analysis (ICA) map and Distribution Investment Deferral Framework (DIDF) map on PG&E’s Distribution Resource Plan (DRP) Data Portal<sup>1/</sup> provide the location of PG&E distribution lines.

11. *All utilities – Provide a service territory map with HFTD overlay and ingress/egress routes highlighted.*

PG&E has not mapped ingress/egress routes that could be overlaid against the HFTD. The egress score PG&E utilizes is based per town and unincorporated community as defined by the United States Census Bureau. Egress scores for these census-defined areas are integrated into the wildfire risk score for individual line segments, protections zones and circuits in the area. PG&E believes the best source for maps of ingress/egress routes would be the emergency response plans developed by each city and county. Their expertise will be valuable in future analysis in support of mitigating risk associated with wildfires.

12. *Should utilities develop Fire Potential Indices (FPI) that are comparable, rather than maintaining their own individual FPIs that govern what action they take to mitigate wildfire? Why or why not*
13. *Should FPIs be vetted and verified by an independent third party? Why or why not? Should there be regional FPIs (e.g., mountain, coastal, desert, Wildland Urban Interface (WUI), etc.) developed that can be used consistently across utilities? Why or why not?*

In 2018, Pacific Gas and Electric Company (PG&E) Meteorology, with guidance from fire experts from San Diego Gas & Electric Company (SDG&E), the United States Forest Service (USFS), and San Jose State University’s Fire Weather Research Lab, developed the Fire Potential Index (FPI). The central purpose in the development of the new FPI was to create a

---

<sup>1/</sup> [https://www.pge.com/en\\_US/for-our-business-partners/distribution-resource-planning/distribution-resource-planning-data-portal.page](https://www.pge.com/en_US/for-our-business-partners/distribution-resource-planning/distribution-resource-planning-data-portal.page)

system that could be optimized to forecast and track fire danger in real-time, a capability that has historically been unavailable when utilizing the National Fire Danger Rating System (NFDRS). PG&E would welcome qualified parties serving as an independent third party to vet and verify the FPI work PG&E and fire experts from SDG&E, USFS, SJSU Fire research have developed.

There should be a longer-term goal of developing FPIs that are comparable, rather than each utility maintaining their own individual FPIs that govern what actions they take to mitigate wildfire. However, considerations of the electric system differences and related geographical and topographical attributes may create challenges in reaching comparable FPIs.

15. *All utilities – Describe which models or tools are used for making decisions related to wildfires (e.g., FARSITE for wildfire spread, National Fire-Danger Rating System for risk level, ArcGIS for asset model) and decision-making processes? Which data (of what quality, timeliness, and format) are used? How are the models' results interpreted? Which other stakeholders have access to the models' results and their interpretation?*

In addition to PG&E's GIS data base, which models PG&E's electric power system, PG&E has also developed a circuit (e.g., distribution or transmission line) prioritization model for both distribution and transmission assets to determine a wildfire risk score for each circuit based upon different components of risk. This wildfire risk score establishes the priority of hardening efforts for distribution and transmission circuits.

Wildfire risk is calculated using three components: likelihood of failure, likelihood of spread and consequence, and egress. These three components are defined as follows:

- Likelihood of failure: relative risk of a circuit causing an outage and ensuing ignition
- Likelihood of wildfire spread and consequence score: relative probability of ignition spread and quantity of homes or timber affected if ignition occurs
- Egress score: ease of access to a community exit and extent of exit, for a mass evacuation

For transmission assets, additional factors were also considered when developing a transmission circuit (e.g., line) risk scoring. This includes the consideration of the operational

priority list of transmission lines from PG&E's Grid Operations, the list of the top 20 Fire Index Areas (FIAs), and transmission system modeling. The top 20 FIAs were identified based on analysis of the past 30 years of weather data and 11 years of outage history and identify FIAs that rank highest in terms of likelihood of experiencing a PSPS event. Transmission system modeling considers the age, design, and historical operational performance to determine the likelihood of a specific transmission asset failure under certain wind loading conditions.

The data and models' results interpretation are summarized below:

- GIS Database – Models electric asset records information.
- Likelihood of failure: The likelihood of an asset failure was determined using a regression analysis to predict higher-than-average performance along a circuit. This analysis, completed at the structure level for transmission asset and at the circuit level for distribution asset, included an assessment of multiple variables including asset condition, asset location, asset characteristics (e.g., age, size, material, etc.), and historical work order data to assess the probability of higher than average expected failures.
- Likelihood of wildfire spread and consequence score: To evaluate risk of wildfire spread and consequences, PG&E used the REAX Engineering, a third-party entity, wildfire spread and consequence model, similar to the methodology used to determine the HFTDs on the CPUC's HFTD Map. Wildfire spread considers fuel type, fuel density, topography, weather, wind, and distance from fire station or air suppression station. Wildfire consequence considers population density, structure density, and negative impacts to natural resources. This model developed a comparative risk score across PG&E's service area. Every PG&E structure lies within a certain percentile of spread and consequence based upon the model's analysis. Each percentile corresponds to a relative risk score within the model, correlating a comparative risk score to the electric transmission or distribution asset falling within that percentile.

- Egress score: An egress risk score was included to understand the ease of entering and exiting a town or unincorporated community in the event of evacuation. This analysis was developed by looking at the number of road miles within a census-designated town or unincorporated community and comparing it to the population of that particular census-designated area. Since a road's ability to provide egress varies based upon the type of road, the number of road miles was weighted based upon the type of road (e.g., highways/interstates, country roads, residential roads).

All stakeholders have the opportunity to request access to the models from PG&E.

### **C. Outreach and Community Awareness**

16. *All utilities – how do the utilities assess the effectiveness of their “community outreach and public awareness before, during and after a wildfire” pursuant to Section 8386(c)(16)(B), whether conducted in English or other languages?*

PG&E measures the effectiveness of community outreach and public awareness before, during and after a wildfire through qualitative and quantitative approaches, based on the communication outreach type.

PG&E qualitatively evaluates customers' awareness, feedback and recall of PG&E outreach, including wildfire safety and preparedness, through research, focus groups, surveys, customer feedback and CBO input.

- Research: Beginning in 2019, before and after the start of wildfire season, PG&E conducts semi-annual quantitative research studies with customers (in both English and Spanish) to capture awareness and recall of PG&E's customer communications, and measure statistically-significant changes over time.
- Focus Groups: In advance of and during major outreach campaigns, focus groups are also conducted to test the effectiveness of PG&E's Community Wildfire Safety Program (CWSP) related messaging.
- Surveys: PG&E hosts website surveys that allow customers to provide direct feedback on the site page and topic. PG&E's email newsletters also provide

customers the option to score the value of the content and to provide direct comments.

- Customer Feedback: PG&E also regularly reviews customer sentiment via the Contact Center during large call volume periods.
- CBO Input: PG&E continues to work with community-based organizations (CBOs) that serve the access and functional needs (AFN)<sup>2/</sup> population to both amplify our message and solicit feedback before and after outreach.

PG&E also quantitatively tracks customer engagement at different periods of time throughout wildfire season to understand customer behavior, including:

(1) traffic to relevant pages on PG&E's website, such as wildfire alerts, updates to contact information, wildfire safety pages, safety action center, statewide Public Safety Power Shutoff (PSPS) program,

(2) click-through-rates of advertisements, and

(3) conversion rates / actions taken by customers as a result.

Website traffic is currently measured by assessing number of unique visitors, visits, and page views.<sup>3/</sup> Click-through-rate of advertisements is an industry-accepted standard that measures the number of people visiting a webpage who access a hyperlink to an advertisement (e.g. wildfire safety). To note, advertisement click-through-rates measure the immediate response to an advertisement, but not necessarily the overall response. Customers may see the ad, absorb the messaging and choose to act later. Conversion rates of customers is the measurable actions taken by customers based on the outreach (e.g. updating contact information,

---

<sup>2/</sup> CPUC Decision (D.) 19-05-042 (pg. C1) defines "Access and functional needs populations" as consisting of individuals who have developmental or intellectual disabilities, physical disabilities, chronic conditions, injuries, limited English proficiency or who are non-English speaking, older adults, children, people living in institutionalized settings, or those who are low income, homeless, or transportation disadvantaged, including, but not limited to, those who are dependent on public transit or those who are pregnant.

<sup>3/</sup> *Unique visitors* are the number of individuals that visit the specific webpage. These unique visitors may make multiple *visits* to the webpage. *Page views* account for all webpages served by the website (pge.com) whereby a unique visitor goes to multiple pages on the website.

attending an open house, enrolling in medical baseline program, limiting customer escalations or refusals<sup>4/</sup> related to the enhanced vegetation management and wildfire safety inspection programs.

17. *All utilities – how do the utilities evaluate whether additional or different outreach methods are needed to adequately inform communities?*

PG&E evaluates the results of the qualitative and quantitative outreach measures described in question 16 to inform its outreach strategy and make adjustments accordingly. PG&E looks for trends and outcomes that demonstrate the need for either small refinements to messaging or more significant adjustments, such as method of engagement.

18. *Is it appropriate to require outreach in languages other than those adopted in Phase 1, including indigenous languages discussed at the workshops? (e.g., Mixteco, Zapoteco, Triqui) How should such outreach occur?*

PG&E recognizes and values the diversity of the people, cultures and communities that it serves. Rather than require outreach be done in additional languages by PG&E directly, PG&E suggests enhanced engagement with local CBOs that serve and support linguistically isolated communities. These organizations have established relationships with these communities and could be the means to ensure customers have a trusted-channel to get the information that they need. PG&E welcomes the partnership and will continue to provide wildfire preparedness messaging, training, outreach and education to the CBOs so they can help inform customers in the preferred language.

PG&E does not believe that additional languages are required based on several factors, including: current use of PG&E's call center language translation services in general and for indigenous languages, customer language preference data, and United States census data specifying primary language for counties within PG&E territory.

---

<sup>4/</sup> Customer refusals are related to customers not allowing PG&E workers or contractors on their property to complete CWSP-related work.

On average, over the past year, approximately 9.5% of customer calls to PG&E's call center used translation services, which is available in 240 languages, including Mixteco and Zapoteco. Of those calls in other languages, almost 9% are Spanish, 0.2% are Mandarin, 0.2% Cantonese, 0.1% Vietnamese. Almost 90 other languages have been supported by PG&E's call center for the remaining 0.1% of calls, therefore it would be difficult to substantiate which language should be further added for more comprehensive language translation support. Out of the approximately 7 million calls received last year, PG&E received and provided translated services for 22 calls in Mixteco and 2 calls in Zapoteco.

Additionally, just over 100,000 (less than 2%) of PG&E's 5.6 million residential customers have identified a language preference with PG&E. This includes 1.7% of customers identifying Spanish as their preference language, 0.1% identifying Cantonese, and 0.1% identifying Mandarin. Less than 3,000 total customers have identified Korean, Russian, Tagalog or Vietnamese as their preferred language for PG&E communications.

19. *All utilities – What outreach to linguistically isolated communities have you done, including in indigenous languages?*

PG&E has not conducted direct outreach to linguistically isolated communities or specifically targeted organizations that support these communities. PG&E has, however, conducted extensive outreach and awareness campaigns to organizations that serve AFN populations PG&E welcomes expanding existing partnerships to include these organizations in the existing outreach efforts provided to local CBOs. This type of outreach includes:

- Coordinating with over 100 multicultural media outlets (Latino, Asian and African American) to help educate diverse and non-English speaking customers on PSPS education and awareness and emergency preparedness through various public relations efforts, such as press releases and outreach material distributions, media roundtables, media visits, and in-language media interviews.
- Sharing education and awareness information with over 200 organizations that support Access and Functional Needs (AFN) populations and PG&E's low-

income Energy Savings Assistance (ESA) program contractors to disperse to their customers / constituents. This includes emergency preparedness materials, PSPS program information, Medical Baseline enrollment, translated information in the seven languages as required by the CPUC, including tools for sharing the information with clients and/or communities they serve and the link to update contact info at [www.pge.com/mywildfirealerts](http://www.pge.com/mywildfirealerts) or sign up for PSPS ZIP Code Alerts that they may provide to their clients/members;

- Hosting a webinar with local CBOs that support the AFN population to discuss PSPS preparedness and the medical baseline program and application process.

20. *What kind of analysis should be done to understand language access needs in utility service territories? Who should do this analysis and how should it be done?*

As an indicator of the language needs in the territory, PG&E recommends leveraging customer language preference data that is associated with PG&E's customer accounts, current use of PG&E's call center translation services, and United States census data related to counties served by PG&E. To the extent that it is evident that language is underutilized or unnecessary, the utilities should be able to off-ramp continuing to provide emergency communications in that language.

21. *What tools and resources should utilities utilize to better understand language needs?*

PG&E recognizes the diverse nature of our service territory and has developed tools to help keep pace with diverse and changing demographic trends. PG&E's Customer Call Center and website provide access to translation materials in 240 languages and 7 languages, respectively. PG&E monitors the usage of these tools to identify shifts in customer needs.

In addition, PG&E develops program materials in languages other than English to support widespread outreach. PG&E uses the Federal Voting Rights Act, Section 203 standards for Minority Languages as its guide to determine if a language is prevalent in our service



territory. Specifically, we provide in-language materials for populations that represent more than 10,000 or 5% of the county's total population, based on census data.

PG&E cautions, however, that any additional requirements not be based on language prevalence,<sup>5/</sup> given the investment and resources needed to translate communications in advance is as resource intensive to make available to customers only where prevalent. For example, for PSPS, PG&E is translating notifications to meet this requirement and plans to make these translations available to customers everywhere. Under the parameters of language prevalence, Korean is prevalent in 3 counties: Alameda, San Francisco, and Santa Clara; and in Russian in two counties: San Francisco, Sacramento.<sup>6/</sup>

To help ensure PG&E stays in tune with its markets, as well as customer preferences and needs, PG&E may also conduct a qualitative survey of CBOs to understand language needs within the community, solicit feedback from community leaders directly, and consider suggestions made through regulatory workshops, such as the one held by the CPUC in September 2019.

22. *What kind of strategies should IOUs utilize in order to reach Limited English Proficient communities? What are suggested communication channels and community partners?*

PG&E recommends continued and enhanced coordination with CBOs and multi-cultural media partners that have existing relationships and serve disadvantaged and/or hard to reach communities to provide education and awareness in the channel they determine most appropriate. Given there is not a one size fits all approach to reach Limited English Proficiency communities, such channels could include paid and earned media, event outreach, social media, or reaching out to owners/property managers of migrant worker housing to identify opportunities for additional outreach and engagement.

---

<sup>5/</sup> Language defined as “prevalent” based on the following (1) If the in-language population is more than 10,000 within a county, OR If the in-language population is more than five percent of the total county population.

<sup>6/</sup> The counties were identified using the 2017 American Community Survey by Census.

23. *How should effective outreach to Limited English Proficient communities be measured? What are metrics for success, other than simply translating materials?*

To measure effective outreach to Limited English Proficient communities, PG&E recommends assessing anecdotal, qualitative feedback from those CBOs and multi-cultural media outlets engaged in amplifying awareness and education in desired languages. This can be done through focus groups or surveys to evaluate messaging recall and program awareness.

24. *What strategies can IOUs employ to counteract misinformation in Limited English Proficient communities, and build trusted relationships?*

PG&E can counteract misinformation and build trusted relationships by partnering with trusted CBOs and community leaders that currently have a relationship with disadvantaged, hard to reach and limited English proficient communities to provide education and awareness of existing programs. As described above, PG&E shares press releases and outreach materials to multi-cultural media outlets who can, in turn, provide translated information to their constituents.

25. *All utilities – What coordination have you done with local communities to track and motivate customer buy-in and participation in the roll out of enhanced vegetation management programs (i.e., beyond minimum regulatory requirements)?*

PG&E began educating customers about increased vegetation clearance requirements in 2018, including the benefits of going beyond minimum requirements through letters, postcards, a dedicated toll free number and email address, in person via vegetation management contracted Inspectors on property, and subject matter experts that provided an overview and responded to questions about enhanced vegetation management at Community Wildfire Safety Program (CWSP) open houses. Outreach continued in 2019 beginning with a postcard to all customers residing in Tier 2 or 3 high fire threat districts about components of the CWSP, including enhanced vegetation management, followed by a tri-fold brochure about working together to keep trees away from power lines that highlighted all PG&E vegetation management programs including enhanced vegetation management. In addition, radio and television ads focused on defensible space began airing throughout PG&E's service territory and CWSP open houses

continued with the addition of four webinars to allow for customers to obtain CWSP open house material virtually. Awareness regarding wildfire safety, including defensible space, is tracked through the administration of the semi-annual quantitative research studies described in response to question 16, which represents a statistically significant sampling of the population.

**D. Independent Evaluator**

27. *If known, provide examples of successful models that could be leveraged and followed for implementation of the independent evaluator process.*

Large consulting, auditing and even legal organizations are regularly contracted as Independent Evaluators, to dive deep into areas that are highly specialized. These firms leverage their own experience with project management, quality management, change management and process improvement concepts and processes. These firms then source from inside or outside their organization technical experts in the topic area in question. For example, they are often able to identify recently retired technical experts in the focus area to provide technical consultation and review within the project, quality and process management framework that they have established. This is the approach that PG&E's federal monitor, a law firm, has taken in terms of providing the process and project management themselves and then acquiring from other firms or individuals the technical expertise necessary to evaluate specialized processes including asset inspections, vegetation management, and system hardening.

28. *What should be the primary focus of independent evaluator compliance reviews?*

The independent evaluator compliance review should be primarily focused on validating if the utilities successfully executed all elements of their approved 2019 Wildfire Mitigation Plans. This does not require the Commission to establish additional criteria or standards that the independent evaluator would assess the utilities against. Rather the independent evaluator needs to thoroughly understand all of the elements presented in the utility's WMP and thoroughly assess if those elements were accomplished and/or implemented. If the independent evaluator identifies improvements that could be made to what is included in the approved WMPs such

observations would be appreciated, useful and valuable in helping all parties to continue to evolve our wildfire risk reduction efforts. However, this should be considered at most a secondary task as it is important to set a feasible scope for the independent evaluator, given the already significant undertaking they must address (i.e. did the utility fully comply with their approved WMP?).

29. *PG&E – What lessons learned from the federal court monitor experience can be leveraged to optimize the Wildfire Mitigation Plan independent evaluator process? What worked and what did not? Why?*

As noted previously, PG&E's federal monitor team has been effective in reviewing PG&E's operations by leveraging their own process and project management expertise with the technical expertise held by their contracted subject matter experts (SMEs). PG&E believes the federal monitor team's approach and process for evaluating the utility's enhanced vegetation management work is an example of what has worked well. This is in large part due the team's intentionality about meeting with those within PG&E who know the operations best as they develop their inspection criteria and begin inspections. The federal monitor's process, at a high-level, is as follows:

- Understand PG&E's processes by sitting down with the PG&E teams delivering on WMP-related programs to understand all steps and interdependencies.
- Observe each step in the process as it happens in the office or in the field and engage with the employees who are performing the task.
- Perform independent field assessments and partner one member of their team of legal and technical experts with one additional, technically qualified resource, to assess PG&E's performance of process steps in the field.
- Provide PG&E information on issues found in the field needing remediation or general observations or pieces of feedback that may be helpful in improving processes going forward.

Details of the federal monitor team's approach are available in the federal monitor team's letter report to the U.S. District Court for the Northern District of California of July 26, 2019. PG&E does not have examples of things that have not worked well with its federal monitor team.

30. *What elements of the federal court monitor process related to PG&E's probation should be utilized for the Wildfire Mitigation Plan independent evaluator process and why?*

Four aspects of the federal monitor process are relevant and helpful in formulating the independent evaluator process:

- A well-resourced principal, in the case of PG&E's federal monitor, a law firm, leverages their own process and project management expertise to deliver on the overall mission. They also acquire from other firms or individual's technical expertise necessary to evaluate each of the specialized CWSP processes.
- As the federal monitor team has done, the independent evaluator review process should focus on first understanding the utility's processes and practices in delivering on the wildfire mitigation activities they are assessing. The uniqueness of each utility's plan, service territory and other factors make it infeasible for objective assessment criteria to be valid for all independent evaluators across all utilities.
- As the federal monitor team has also done, field observations and assessments should entail either (a) observing and interviewing utility employees and/or contractors actively performing the work or (b) leveraging technical experts in the same field to replicate the inspections and /or observations that are part of the utility's process. These activities are much more effective than generic "field visits" or "assessments" that are not aligned with the utility's procedure.
- While the independent evaluator process has been established to primarily focus on assessing the utility's performance against the existing, established targets and procedures, there is value in providing utilities with aggregated data on what the

inspector is finding in the field during the engagement. This will help the utilities put their attention and resources in the appropriate areas in need of improvement.

31. *How could government, utilities, and academic institutions work together to improve the development of qualified professionals?*

As it relates to maintaining a highly qualified and sustainable independent evaluator workforce it is worth noting that seasonal hiring and retention is often much more difficult than maintaining a stable, continuous workforce. As such, if the independent evaluator is anticipated to remain a feature of the CPUC and WMP process for many years to come it may be worth considering how to set it up as a continuous, stable, year-round project as opposed to a seasonal, peak-period effort.

Efforts to augment recruiting, training and development of a workforce in specific areas are complex and must be, by their very nature, long-term. While consideration of improving the development of a workforce by government, utilities and academia is a valuable question for all parties to be engaged on, PG&E submits that this question might be above and beyond the scope of the WMP proceeding. PG&E is engaged to set up community college programs that would provide introductory education and training to attract additional resources to the Vegetation Management field.

35. *How, if at all, should utility resource constraints related to the availability of qualified personnel be evaluated in the independent evaluator process?*

The IE compliance review should be primarily focused on validating if the utilities successfully executed all elements of their approved 2019 Wildfire Mitigation Plans. If the utility did not successfully execute all elements it would be valuable for the independent evaluator to identify what factors may have contributed to these shortcomings. In that sense the independent evaluator may want to understand the resource constraints that impacted a utility and may include their assessment of that issue in any report or deliverable on the utility's performance.

**E. Review Process/AB1054**

36. *Should future Wildfire Mitigation Plan filings be timed to coincide with or relate to utility General Rate Case and related filings? Provide a sample filing timeline.*

Going forward, the Wildfire Mitigation Plan proceeding should establish consensus and provide approval for the appropriate wildfire risk reduction activities that a utility should undertake during the WMP timeframe. Those activities would then be funded through the utility's General Rate Case (GRC). As such, it would be preferable for a utility's WMP timeframe to align with and be approved in advance of the upcoming General Rate Case being filed, such that the work and investments proposed in the GRC would reflect the approved WMP. Aligning these timings, however, is complicated by the fact that each of the three major IOUs are on different rate case cycles (filed in different years) and the discussion regarding the Rate Case Plan Proposed Decision that is currently underway and may result in fundamental changes to the existing General Rate Case cycle, including potentially a move to a 4-year rate case cycle. If those issues could be resolved, however, the ideal scenario would be for the utility to file a WMP 12 months in advance of the GRC filing, which would align with the Risk Assessment and Mitigation Phase Report filing and have the WMP approved at least 5 months in advance of the GRC filing date. This would allow for at least the GRC test year investments to align with one of the years in the approved WMP.

For a specific example, if PG&E's 2023 GRC is due to be filed on June 30, 2021, PG&E would file a WMP covering 2021, 2022 & 2023 on June 30, 2020 with approval anticipated by December 1, 2020 such that the approved WMP can be reflected in PG&E's filed GRC. Setting this schedule to align each utility with upcoming GRCs would likely require utilities to be filing WMPs on different years. Similar to the GRC structure, benchmarking would still be possible from one utility's WMP to another utility's WMP even if they are not filing and working through the WMP proceeding in parallel. Such an approach may provide a benefit of allowing for increased focus on the unique challenges, risks and factors inherent in each utility's different service areas and conditions.

38. *Provide any recommendations you have about the process of reviewing future Wildfire Mitigation Plans, including your analysis of what AB 1054 and 111 permit or require.*

The Commission needs to be clear on what is being reviewed and approved as part of the WMP proceeding. For the 2019 WMPs it seemed that “approval” of the WMPs simply acknowledged that each utility’s plan complied with the requirements set forth in SB 901. If this level of review is to continue to be the outcome of the proceeding, then the workshops and discovery should be scoped similarly, to focus on if the plan meets the requirements. However, much of the workshops, discovery and filings during the 2019 WMP review proceeding discussed the reasonableness and scoping of the various mitigations being proposed. PG&E is supportive of this level of discussion if it aligns with the approval (or rejection) that will be made at the end of the proceeding. If the Commission will be determining the reasonableness of the scope and schedule of the various mitigation activities, the reasonableness of the associated costs, the and completeness of the proposed WMP, then workshops and discovery on those questions would also be appropriate. The process, including workshops and discovery should align with the question ultimately being answered through this proceeding.

39. *Should future Wildfire Mitigation Plan filings be staggered? If so, how should they be staggered?*

Staggering WMPs by utility could allow for alignment with each utility’s General Rate Case cycle, which would have benefits in terms of aligning approved WMPs with funding decisions made through the GRC. Like the GRC structure, benchmarking would still be possible from one utility’s WMP to another utility’s WMP even if they are not filing and working through the WMP proceeding in parallel. Such an approach may provide the benefit of allowing for increased focus on the unique challenges, risks and factors inherent in each utility’s different service areas and conditions.



40. *How long should the Wildfire Mitigation Plan review timeline be? During the review period, what should the detailed schedule (and deadlines) be for initial statutory review, requests for adjustment, data requests, data request responses, party comment, etc.?*

Depending on what is being “approved” the timeline to approve may be concise. If “approval” simply acknowledges that each utility’s plan complies with the requirements, then a concise review timeline (similar to in 2019) should be very feasible. Alternatively, if the commission will be determining the appropriateness of various mitigation activities and the scope or pace of those activities than a longer timeline may be appropriate to fully assess the mitigation activities being proposed and the scope and pace of those activities. In any case the future WMP schedule should result in WMPs being approved before they would be in effect (i.e. before January 1 of the year they begin).

41. *By what date would Wildfire Mitigation Plan approval enable utilities to take advantage of lower-risk seasons to implement Wildfire Mitigation Plan measures (particularly for asset construction and maintenance)?*

Unfortunately, “wildfire season” may no longer be a strictly time-limited “season” for many parts of California. In recent years we have seen some CAL FIRE regions remain in “summer readiness” year-round, an indication that the wildfire risk never dropped off to “winter readiness” levels. As such, utilities will be undertaking wildfire mitigation activities throughout the year. With the height of the wildfire risk focused from August to November that period should generally be avoided for WMP drafting, discovery and workshops / testimony. As such, a reasonable annual timeline may be to have plans (for the subsequent year) due late in Q1 each year with the bulk of discovery and other engagement during Q2 such that approval comes in early Q3.

44. *How can the discovery process associated with Wildfire Mitigation Plans be improved?*

Similar to the discussion above, the discovery phase of the WMP review process needs to be aligned with what is being reviewed and approved as part of the WMP proceeding. If, like in 2019, WMP “approval” simply acknowledges that each utility’s plan complies with the

requirements then only discovery relevant to that decision should be included in this proceeding. Alternatively, if the commission will be determining the appropriateness of various mitigation activities and the scope or pace of those activities then discovery on those questions should be included. Likewise, financial assumptions related to wildfire mitigations should only be subject to discovery if the WMP approval decision is anticipated to address financial implications. The timeline for discovery responses needs to take into account the overall WMP proceeding duration and it is reasonable that parties should have time for at least two question & answer cycles between major filing deadlines. For most responses having discovery responses due in 5-7 business days is reasonable, however more complex discovery responses will, necessarily take longer, so extensions beyond the standard discovery timeframe must be available, including when there is mutual agreement between the requesting party and the recipient.

## II. CONCLUSION

PG&E appreciates the opportunity to comment on the topics above and looks forward to working collaboratively with other stakeholders on creating an effective and efficient Wildfire Mitigation Plan for 2020 and beyond.

Respectfully Submitted,

ALYSSA KOO  
JESSICA BASILIO

By:                     /s/ Jessica Basilio                      
JESSICA BASILIO

Pacific Gas and Electric Company  
77 Beale Street, B30A  
San Francisco, California 94105  
Telephone: (415) 973-5548  
Facsimile: (415) 973-5520  
E-mail: [Jessica.Basilio@pge.com](mailto:Jessica.Basilio@pge.com)

Dated: November 6, 2019

Attorneys for  
PACIFIC GAS AND ELECTRIC COMPANY

## Attachment A – PG&E Progress of Wildfire Mitigation Plan



### WSP Initiative Status (as of 9/30)

<b>1. Wildfire Safety Inspections Program (WSIP)</b>		<b>2. System Hardening</b>	<b>3. Vegetation Management</b>
<b>Transmission</b>	<b>Distribution</b>		
1.1 Inspections: 99.8% complete	1.6 Inspections: 694,250 poles	2.1 45 Miles by 6/30	3.1 EVM 1,000 circuit miles by Q2
1.2 Corrective Actions	1.7 Corrective Actions	2.2 150 Miles by EOY	3.2 EVM 2,450 circuit miles by EOY
1.3 Quality: 98.2%	1.8 Quality: 96.7%	2.3 Quality	3.3 VM CEMA inspections
1.4 Drone Inspections: 99.6% complete	<b>Substation</b>	2.4 Non-exempt fuses	3.4 VM CEMA Corrective Actions:
1.5 Helicopter Inspections	1.9 Inspections: 222 substations	2.5 System Protection Trip-Savers	3.5 VM Inspections for Strike Potential
	1.10 Corrective Actions	2.6 System Sectionalization	3.6 EVM Quality: QC 100% of Work
<b>4. Public Safety Power Shut-Off (PSPS)</b>		<b>5. Resilience Zones</b>	
4.1 Recloser Operations	4.6 First Responders and Critical Services: Advanced notification	5.1 Pilot: Angwin, Napa County	5.2 Additional Resilience Zones
4.2 Customer Services: Backup Generation and Community Resource Centers (CRC)	4.7 Medical Baseline Notifications	<b>6. Operations and Technology</b>	
4.3 PSPS Impact Mitigation	4.8 Customer Outreach: Notification tools	6.1 Response, Recovery & Restoration	6.5 Enhanced Wires Down Detection
4.4 Re-energization Strategy	4.9 Mitigate impact on Telecom / Water Utilities	6.2 Personnel Work Procedures	6.6 Disable Manual Reclosers
4.5 Customer Notifications	4.10 Mapping and Communication Protocols	6.3 Situational Awareness	6.7 Recloser Daily Operations
		6.4 Rapid Earth Fault Current Limiter, Pilot	
<b>7. Safety Infrastructure Protection Team (SIPT), Wildfire Safety Operations (WSOC) and Weather</b>			
7.1 Aviation: Helicopters to aid fire suppression and restoration	7.4 HD Cameras by Q2	7.7 Fire Spread Model	7.10 Weather Stations by Q2
7.2 Safety & Infrastructure Protection Teams (SIPT)	7.5 HD Cameras by EOY	7.8 Fire Detection System	7.11 Weather Stations by 9/1/19
7.3 SIPT support WSOC	7.6 Meteorological Situational Awareness: Improving accuracy	7.9 Storm Outage Prediction Model (SOPP)	7.12 WSOC: Integrate new technology and processes

Color Legend: Completed on Time Completed Late On Track At Risk High Risk

Following the wildfires in 2017 and 2018, some of the changes included in this presentation are contemplated as additional precautionary measures intended to further reduce future wildfire risk.

## Attachment B: PG&E List of proposed Wildfire Mitigation Plan Metrics

#	Proposed WMP Effectiveness Metric	WMP Mitigation Plan Category	Description of Metric	Data Needed
1	Number of Wires Down Events within HFTD areas when FPI is rated as very-high or higher	System Hardening, Inspections	Comparison of Before WMP and After WMP actions implemented	HFTD polygons, FPI, distribution and transmission outage data
2	Number of Utility Equipment Caused Ignitions in HFTD areas	Vegetation Management, System Hardening	Comparison of Before WMP and After WMP actions implemented	HFTD polygons, Ignition data
3	Number of Vegetation Caused Outages within HFTD areas, when FPI rated as very-high or higher	System Hardening, Vegetation Management	Comparison of Before WMP and After WMP actions implemented	HFTD polygons, FPI, distribution and transmission outage data
4	Number of Vegetation Caused Ignitions	System Hardening, Vegetation Management	Comparison of Before WMP and After WMP actions implemented	Ignition data
5	Number of Other/Animal Caused Outages, when FPI is rated as very-high or higher	System Hardening, Inspections	Comparison of Before WMP and After WMP actions implemented	Distribution and transmission outage data, FPI
6	Number of Other/Animal Caused Ignitions	System Hardening, Inspections	Comparison of Before WMP and After WMP actions implemented	Ignition data
7	Number of faults on HFTD circuits associated with contact from object or equipment failures	System Hardening, Vegetation Management, Inspections	Comparison of Before WMP and After WMP actions implemented	HFTD polygons, transmission and distribution outage data
8	Number of Conventional Blown Fuse Events	System Hardening, Vegetation Management, Inspections	Comparison of Before WMP and After WMP actions implemented	Distribution outage data
9	Number of National Fire Danger Rating System “Very Dry” and “Dry” days			

## Attachment C: Joint-Utility Definitions and Measures for Data and Metrics Matrix

BEAR VALLEY					
LIBERTY					
PACIFICORP					
PG&E					
SCE					
SDG&E					
Wire Downs	Faults	Ignitions			
Provide utility's definition of a wire down event	Provide utility's definition of a fault	Provide utility's definition of an ignition			
Any overhead conductor that is out of its designed position and considered a risk to the public due to being on the ground or close enough to the ground to reasonably be considered a hazard to the public.	Any occurrence where wire has fallen or fatigued to the ground or within approximately 8 feet above a surface where it may come into contact with the public or can lead to a public safety hazard.	Ignition, as documented in the company's fire database, includes any situation during which a fire occurred that could have affected or involved company facilities. Those which were found to meet the criteria for annual reporting are selected for reporting purposes.	An event where utility facilities are associated with a self-propagating fire of material other than electrical and/or communication facilities, where a rapid, exothermic reaction was initiated that propagated and caused the material involved to undergo change, producing temperatures greatly in excess of ambient temperature. This includes ignitions that result in structure fires, fires that only travel one meter or less, and fires that travel more than one meter (classified in multiple sizes).		
	A physical condition that causes a device, a component, or an element to fail to perform in a required manner, for example, a short-circuit, a broken wire, or an intermittent connection. (IEEE 100-2000)	A physical condition that causes a device, a component, or an element to fail to perform in a required manner, for example, a short-circuit, a broken wire, or an intermittent connection. (IEEE 100-2000)	When system devices or sensors record an abnormal system event where energized lines or equipment come in contact such as due to a phase-to-phase or line-to-ground condition.		
			A physical condition that causes a device, a component, or an element to fail to perform in a required manner, for example, a short-circuit, a broken wire, and an intermittent connection. (IEEE 100-2000)		
			Any wire that is considered a risk to the public due to being on the ground or within eight feet of the ground. Wire down records are based on wire down calls and repair order in which primary, secondary, service drop, transmission, or sub-transmission wire is reported down.		
			A wire down follows the S-Map decision and is defined as "an electric transmission or primary conductor wire downs, due to system tracking limitations, must be associated with an unplanned electric customer outage to be tracked.		

Joint-Utility Definitions and Measures for Data and Metrics Matrix

BAA UTILITY		LIBERTY		PACIFICORP		PG&E		SCS		SDGE			
Fire Potential Index or Fire Potential Risk		Fire Danger Rating		Blown Fuse Events		Outages		Fire Potential Index or Fire Potential Risk		Fire Danger Rating			
Provide utility's definition/calculation of the fire potential risk (include classifications - e.g. elevated, extreme)		Provide utility's fire danger rating system (include classifications - e.g. dry, very dry days)		Provide utility's definition of a blown fuse event (include any relevant distinctions)		Provide utility's definition of an outage (include any relevant distinctions)		Provide utility's definition/calculation of the fire potential risk (include classifications - e.g. elevated, extreme)		Provide utility's fire danger rating system (include classifications - e.g. dry, very dry days)			
EVEF uses a contracted meteorologist that integrates weather data from the NWS, National Weather Service, and local real-time data from EVEF distributed weather stations (to account for local micro-climates) to ultimately assess relative local fire danger and risk. Reports are given weekly normally, and more often during heightened threat conditions. Operations personnel and leadership receive automated real-time alerts from EVEF weather stations when local winds exceed thresholds.		EVEF does not currently have a Fire Potential Index. We are in the process of developing an FPI so that it can be utilized for 2020 fire season. Fire Potential risk classifications are designated as follows:  Extreme Fire Risk - As determined by the Wildlife Prevention Department, Extreme Fire Risk is defined as periods of increasing risk of wildfires and the associated ignition risks. All O&M activities have associated ignition risks. The Extreme Fire Risk status is indicated as "red".  Elevated Fire Risk - As determined by the Wildlife Prevention Department, High Fire Risk is defined as periods of increasing risk of wildfires and the associated ignition risks. Many O&M activities have associated ignition risks. The High Fire Risk status is indicated as "yellow".  Normal Fire Risk - As determined by the Wildlife Prevention Department, Normal Fire Risk is defined as periods where the potential for wildfires and associated ignition risks are not elevated. Some O&M activities may have stipulations and additional fire mitigation measures may be required. The Normal Fire Risk status is the default operational state and the FPI is indicated as "green".		The loss of ability of a component to deliver power. As used by PacificCorp, this means an event where 0 voltage is indicated at the customer's premise. An outage impacts 0-100% of the customer's service. Interruption events, from IEEE 1366, interruption: The total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system. This does not include any of the power quality issues such as: sags, swells, impulses, or harmonics. See also: outage.  For consideration: We should consider capturing the impact on customer reliability of operations in response to fire risk, including suspending operations functionality and intentionally de-energizing, whether to support the suppression or to eliminate the risk.  PacificCorp does not separately track "blown fuse" events. It incorporates "Red Flag Warnings" into its operational responses with regard to system and field operations (such as for reducing and patrol processes initiated). Second, it uses the National Weather Service's Fire Weather Index (FWI) for the northern California as it pertains to the fuel moisture (the Keetch-Byram Drought Index). In addition to Fireberg Fire Weather Index (accumulated over a 6 hour period) and wind speeds, both sustained and gusts.		For consideration: We should consider capturing the impact on customer reliability of operations in response to fire risk, including suspending operations functionality and intentionally de-energizing, whether to support the suppression or to eliminate the risk.  PacificCorp does not separately track "blown fuse" events. It incorporates "Red Flag Warnings" into its operational responses with regard to system and field operations (such as for reducing and patrol processes initiated). Second, it uses the National Weather Service's Fire Weather Index (FWI) for the northern California as it pertains to the fuel moisture (the Keetch-Byram Drought Index). In addition to Fireberg Fire Weather Index (accumulated over a 6 hour period) and wind speeds, both sustained and gusts.		PacificCorp uses two different factors for the danger risk. First, it incorporates "Red Flag Warnings" into its operational responses with regard to system and field operations (such as for reducing and patrol processes initiated). Second, it uses the National Weather Service's Fire Weather Index (FWI) for the northern California as it pertains to the fuel moisture (the Keetch-Byram Drought Index). In addition to Fireberg Fire Weather Index (accumulated over a 6 hour period) and wind speeds, both sustained and gusts.		PacificCorp uses two different factors for the danger risk. First, it incorporates "Red Flag Warnings" into its operational responses with regard to system and field operations (such as for reducing and patrol processes initiated). Second, it uses the National Weather Service's Fire Weather Index (FWI) for the northern California as it pertains to the fuel moisture (the Keetch-Byram Drought Index). In addition to Fireberg Fire Weather Index (accumulated over a 6 hour period) and wind speeds, both sustained and gusts.		PacificCorp uses two different factors for the danger risk. First, it incorporates "Red Flag Warnings" into its operational responses with regard to system and field operations (such as for reducing and patrol processes initiated). Second, it uses the National Weather Service's Fire Weather Index (FWI) for the northern California as it pertains to the fuel moisture (the Keetch-Byram Drought Index). In addition to Fireberg Fire Weather Index (accumulated over a 6 hour period) and wind speeds, both sustained and gusts.	
Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.		Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.		Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.		Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.		Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.		Consistent with the definition of "Interruption" in IEEE Std. 1366-2012, the total loss of electric power on one or more normally energized conductors to one or more customers connected to the distribution portion of the system.			
Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.		Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.		Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.		Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.		Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.		Any unplanned customer loss of power. The utility defines customer loss of power as a process where the full customer notification process required for the outage to be considered "planned" is not executed.			
An electric event that results in the operation of a protective fuse.		An electric event that results in the operation of a protective fuse.		An electric event that results in the operation of a protective fuse.		An electric event that results in the operation of a protective fuse.		An electric event that results in the operation of a protective fuse.		An electric event that results in the operation of a protective fuse.			